



A member of the Avesta Sheffield Group

MATERIAL SAFETY DATA SHEET

Avesta Pickling Chemicals

SECTION I - Manufacturer/Product Identification:

Manufacturer's (Distributor's) Name

Avesta Welding Products, Inc.
3176 Abbott Road
Orchard Park, NY 14127

Emergency Telephone Number
(800) 424-9300 [Chemtrec]

Information Telephone Number
(716) 827-4400

Trade Name: Avesta Pickling Paste / Avesta Pickling Gel
Avesta 254 SMO Pickling Paste / Avesta Spray Pickle Gel

Classification: NA

Product Type: Strong acid paste/gel solution with corrosive properties used to pickle stainless steel.

Date: 06/19/98

Revision: 3

Prepared By: *San Antufalo*

SECTION II - Hazardous Ingredients Information:

The mists, vapors and gases that are produced during normal use are discussed in Section V.

HAZARDOUS COMPONENTS¹:

<u>Specific Chemical Identity; Common Name)</u>	<u>CAS Number</u>	<u>SARA²</u>	<u>OSHA PEL³ (mg/m³)</u>	<u>ACGIH TLV⁴ (mg/m³)</u>	<u>NOTES</u>	<u>PERCENT⁵ By Weight</u>
Aluminum Fluoride	7784-18-1		15	10	Total Dust	22
			5	NA ⁶	Resp. Dust	
Calcium Fluoride	7789-75-5		2.5	2.5	(Fluorides)	5
Hydrofluoric Acid	7664-39-3	*	2.5	2.3 ⁷	(Fluorides)	5-8
Nitric Acid	7697-37-2	*	5	5.2		22-25

Notes:

1. The term "Hazardous" should be interpreted as defined and required in the OSHA Hazard Communication Standard (29 CFR 1910.1200) and does not necessarily imply the existence of any hazard. Any components at concentrations equal to or greater than 0.1 percent are listed in this Section, according to OSHA 29 CFR 1910.1200.
2. An asterisk (*) after the Chemical Abstract Service (CAS) Number indicates a toxic chemical subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (SARA) and 40 CFR Part 372.
3. These permissible exposure levels (PELs) are based on OSHA's rulemaking (29 CFR 1910 Subpart Z) adopted on May 29, 1971, and are the current regulatory limits.
4. These values are based on the American Conference of Governmental Industrial Hygienists (ACGIH) 1997 TLVs.
5. Approximate percent by weight values.
6. NA = Not Applicable; Not Available.
7. Ceiling limit.

SECTION III - Physical/Chemical Characteristics:

MELTING POINT:	176°F-212°F (80°C-100°C)	pH:	0 @ 20°C
BOILING POINT:	104°F (40°C)	VAPOR DENSITY (Air = 1):	< 1
SPECIFIC GRAVITY:	Paste: 1.2 to 1.4	VAPOR PRESSURE (mm Hg):	< 0.01 kPa
	Gel: 1.25	EVAPORATION RATE	
MASS:	Paste: 3 lbs/liter	(Butyl Acetate = 1):	< 1
	Gel: 2.8-3.4 lbs/liter	APPEARANCE AND ODOR:	White gel or
SOLUBILITY IN WATER:	90% @ 68°F (20°C)		paste with pungent odor.

SECTION IV - Fire and Explosion Hazard Data:

FLASH POINT (Method Used): NA
 FLAMMABLE LIMITS: LEL: NA UEL: NA
 EXTINGUISHING MEDIA: No special media required. Use extinguishing media appropriate for surrounding fire. Released product and runoff should be neutralized with a strong alkaline compound (i.e., caustic soda or lime).

SPECIAL FIRE FIGHTING PROCEDURES: If involved in fire, firefighters should wear normal protective clothing. Use self-contained breathing apparatus or an air-purifying respirator with acid gas cartridges when it has been confirmed through air monitoring that it is safe to do so.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

This fluid is not flammable, combustible or explosive. It is a strong oxidizer and is very sensitive to mechanical shock. In contact with metals, hydrogen gas can form in small quantities. When in a small confined space accumulations of hydrogen gas may result in explosion. Compressed gas cylinders near fire should be removed from the fire area or cooled with water. Toxic fumes and nitrous gases will be released in the presence of fire/heat. Refer to ANSI Z49.1 and NFPA 51B standards for additional fire prevention information.

SECTION V - Reactivity Data:

STABILITY: Stable: Unstable:
 Conditions To Avoid: This product is stable under normal conditions. Unstable at temperatures above 104°F (40°C). Avoid high temperatures and ultraviolet radiation.

INCOMPATIBILITY (Materials to Avoid): Incompatible with materials other than stainless steel and PP-PE- and PVC-Teflon plastics. Water and alkaline compounds (bases) will an exothermic reaction with heat development. When mixed other select chemicals suffocating fumes can be emitted a potentially explosive/flammable conditions created.

HAZARDOUS POLYMERIZATION: May Occur: Will Not Occur:
 Conditions To Avoid: None known.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Decomposition will emit toxic fumes and nitrous oxides. Nitrous gases and hydrogen gas are released when product is heated.

SECTION VI - Health Hazard Data:

ROUTE(S) OF ENTRY: Inhalation: Yes Skin/Eye Contact: Yes Skin Absorption: Unlikely Ingestion: Unlikely

HEALTH HAZARDS (Acute and Chronic): Corrosive liquid, can cause severe burns.
 Acute (Short-Term Effects):

Respiratory System: Inhalation of mists, fumes, gases/vapors may cause respiratory tract irritation, cough and difficulty in breathing. May also cause pulmonary edema (build-up of fluid in the lungs).

Skin Contact: Corrosive to skin causing irritation, skin burns and blistering.

Eye Contact: Corrosive to eyes causing intense pain, burning of the eyes and the potential for permanent damage.

Ingestion: Unintentional ingestion is not likely. However, if ingested, this product can cause corrosive damage to the gastrointestinal system, kidneys and liver.

Chronic (Long-Term Effects): Long-term skin exposure may lead to drying and cracking of the skin. Repeated inhalation of low concentrations may cause chronic bronchitis, tooth erosion, and/or appetite loss. Repeated exposure to nitrous oxides is implicated in chronic lung diseases.

CARCINOGENICITY: NTP: No IARC MONOGRAPHS: No OSHA REGULATED: No CALIFORNIA PROP 65: No

None of the ingredients in Avesta Pickling Chemicals are listed in the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), OSHA or California Proposition 65 as potential carcinogens.

SECTION VI - Health Hazard Data (Cont'd):**SIGNS AND SYMPTOMS OF EXPOSURE:**

Respiratory System: Inhalation of fumes may cause irritation and damage to the lungs with pain, coughing and difficulty in breathing. Can cause edema of the lungs.

Skin Contact: Corrosive damage with yellowing of skin, rashes, blisters and slow-healing wounds.

Eye Contact: Corrosive damage with intense pain. Potential for permanent damage.

Ingestion: Burning pain, nausea, diarrhea and vomiting.

Note: Symptoms may not appear immediately.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Existing skin conditions. Chronic respiratory disease.

EMERGENCY AND FIRST AID PROCEDURES: Remove victim from exposure area and call for medical aid. Employ first aid techniques recommended by the American Red Cross.

Inhalation: If breathing is difficult, move victim to fresh air and give oxygen. Rinse mouth and nose of victim discharging rinsed material. Do not ingest rinsed material. If breathing has stopped, provide artificial respiration. Immediately, seek medical attention.

Skin Contact: Remove contaminated clothing. Immediately rinse affected area with plenty of water. Antidotes are available for hydrogen fluoride burns, including HF Antidote Gel, containing 2.5 % calcium gluconate. Seek medical attention for severe skin irritation/burns.

Eye Contact: Immediately call for medical assistance. Flush with plenty of water for until medical assistance is available. Treat with HF antidote eye drops containing calcium gluconate, if available.

Ingestion: Accidental ingestion unlikely. Move individual to fresh air. If ingested, give plenty of fluids preferably milk, or water. Utilize appropriate antacid. Do not induce vomiting. Seek immediate medical assistance.

Information provided for medical care: Inform treating physician that injury was caused by contact with Hydrofluoric acid and Nitric acid solution. Antidote treatment for contact with Hydrofluoric acid is a 2.5% calcium gluconate solution.

SECTION VII - Control Measures:

Read and understand the manufacturer's instructions and the precautionary label on the product. See American National Standard Z49.1 and OSHA Publication 2206 (29 CFR 1910), U.S. Government Printing Office, Washington D.C. 20402, for more details on many of the following:

GENERAL CONTROLS: Avoid direct contact. Provide engineering and administrative controls and personal protective equipment to prevent inhalation and skin and eye contact of mists and vapors from Avesta Pickling Chemicals.

VENTILATION: Use enough local exhaust or general dilution ventilation to keep fumes and gases below the PEL/TLV in the worker's breathing zone and the general area. Train worker to keep head out of vapors.

Local Exhaust: Provide at source of vapors/fumes.

Mechanical: Use general mechanical ventilation to keep work area well vented.

Special: Use hoods/enclosures, if necessary

PERSONAL PROTECTIVE EQUIPMENT (PPE): Protection of the skin and eyes from the corrosive effects of this cleaner is of primary importance. See ANSI Standard Z49.1 for additional information.

RESPIRATORY PROTECTION (Specific Type): Where local exhaust or general dilution ventilation do not keep exposures below the PEL or TLV, use a NIOSH approved full face supplied air respirator or self contained breathing apparatus. Lung function tests [Pulmonary function tests (PFT)] and respirator fit testing are recommended for respirator users.

SECTION VII - Control Measures (Cont'd):

PROTECTIVE GLOVES: Use impervious gloves approved for use with acids.

PROTECTIVE CLOTHING: Use acid resistant clothing sufficient to cover body parts exposed to splashes. boots.

EYE PROTECTION: Face shield and chemical safety goggles, if fullface respirator is not worn. Provide protective screens, if needed to shield others.

WORK/HYGIENIC PRACTICES: Keep head out of mists/vapors. Do not breathe the mists/vapors generated. Use adequate ventilation to control exposures. Avoid eyes, skin and clothes contact with paste, gel or treated surfaces. Do not eat, smoke, or drink in areas where the product is used. Utilized good personal hygiene including washing hands and face after working with pickling paste and gel. Immediately remove contaminated clothing. Wash contaminated clothing with warm soap and water.

SECTION VIII - Precautions for Safe Handling and Use:**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:**

Ventilate the area and avoid direct contact. Wear appropriate personal protective equipment including skin protection and a self-contained breathing apparatus (SCBA). Prevent spilled material from entering sewers and waterways. Contain spilled material with sand or other appropriate diking material. Recover product if possible. Neutralize with Avesta Neutralizing Agent or a strong alkaline compound (e.g., caustic soda or hydrated lime). Combine with inert absorbent material and shovel into appropriate sealable container(s) for disposal or recovery. Properly label all containers. Wash area with soap or detergent and rinse contaminated areas with large amounts of water.

WASTE DISPOSAL METHOD:

Prevent waste from contaminating the surrounding environment. Dispose of product, residue, liners, containers and waste material in accordance with state or federal regulations. For specific labeling, packing, storage, transportation and disposal procedures, contact a consultant familiar with waste disposal regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Establish and implement work policies and procedures to aid in preventing direct contact. Package material must be acid-resistant. Keep container securely closed when not in use. Store in areas that are warm, dry, closed to unauthorized persons and where temperatures remain between 32°F (0°C) and 104°F (40°C) at all times. Store this product separate from other chemicals. Use only in well-ventilated areas to prevent the accumulation of vapors. Do not breathe fumes/vapors generated during use. During product use provide appropriate local exhaust or general dilution ventilation and/or personal protective equipment (PPE) to keep exposures below the PEL/TLV. Perform industrial hygiene air monitoring to determine exposure levels and to establish methods of exposure control, including ventilation and PPE.

OTHER PRECAUTIONS:

A filtration system for rinse water is recommended. Effluent must be separated and disposed of as acid waste. Provide emergency eyewash stations where needed. Use good personal hygiene and safe work practices. Keep out of reach of children. Always read and follow directions on product label and other product information.

ENVIRONMENTAL HAZARDS:

Pickling fluids will severely reduce pH in water. Airborne emissions, spills and releases to the environment (discharge to streams, sewer systems, ground water, surface soil, etc.) should be controlled immediately. If such potential for a spill or release exists, it is advisable to develop an emergency spill response plan.

SECTION IX: California Proposition 65:

CALIFORNIA PROPOSITION 65: This product does not contain or produce chemicals that are known to the State of California to cause cancer.

END OF MSDS